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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,472	09/22/2003	Walter Beck	10191/3280	2949

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EXAMINER

TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/668,472

Applicant(s)

BECK ET AL.

Examiner

Brian K. Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The amendment filed 10/27/06 has been considered and entered. Claims 2,3,9 and 10 have been canceled. Claims 11-14 have been added. Claims 1,4-8 and 11-14 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the amendment filed 10/27/06, the 35 USC 112, first paragraph, rejection has been withdrawn. However, the following rejection has been necessitated by the amendment.

Claim Rejections - 35 USC § 112

4. With respect to claim 14, the claim is a duplicate of claim 1. The only difference noted is the term “highly conductive” first metal, however, both first metals are recited as being silver in both claims. Hence, the claim should be canceled to avoid duplicate claims.

Claim Rejections - 35 USC § 103

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,4-8 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Patent 6,406,939, hereafter '939) in view of Zuniga-Ortiz et al. (U.S. Patent Application Publication 2003/0080392, hereafter '392) and Bayan et al. (U.S. Patent 6,372,539, hereafter '539).

Claims 1 and 6: '939 teaches an example which teaches
a method for producing a conductive coating on a dielectric (i.e. insulating) substrate (col. 3, lines 43-53), comprising:
equipping, in selected regions, at least one surface of an electrically insulating substrate (401) with a coating of an electrically highly conductive first metal (402), the coating being structured as a printed circuit board;
cleaning the at least one coated surface (col. 6, lines 42-46);
seeding the coating with seeds of a second metal (Ni) and then depositing a layer including an alloy (Ni-P) of the second metal onto the coating seeded with the seeds of the second metal via electroless plating (col. 6, lines 50-55).

Claim 3: The electrolessly plated metal may include palladium alloys (col. 4, lines 6-11).

'939 does not explicitly teach that this substrate is subjected to firing. However, the examiner takes Official Notice that it is well known in the art of printed circuit components to fire components to bond them to one another after formation of the components. See, e.g., '939 col. 8, lines 34-40.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have bonded the product of Example 2 to another substrate via a firing process because it is well known in the art to use such processes in order to join printed circuit components together.

'939 is discussed above. It teaches that the substrate may be a ceramic (col. 4, line 63-col. 5, line 2), but does not teach that the first metal includes silver. However, silver is a well known material for terminal bonding pads. See, e.g., '392, claim 23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a terminal pad including silver as the particular terminal pad of '939 with a reasonable expectation of success because '392 teaches that silver is a suitable material for terminal pads. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

'939 teaches that the product may be subjected to connection technologies such as wire bonding, but '939 and '392 do not explicitly teach contacting a gold bonding wire to the first metal. However, '539 teaches that gold wires may be used as connection technologies for circuit components, and that gold forms a sufficient bond with silver (col. 4, lines 38-50). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a gold bonding wire as the particular connection technology of '939 for attaching at least one chip because '939 teaches that wire bonding is a conventional connection technology and because '539 teaches that gold wires in particular are suitable for successful bonding to silver.

Claims 4-5 and 7-8: Regarding the composition of the alloy, it has been held that “differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical.” (MPEP 2144.05.II.A.)

Response to Arguments

6. Applicant's arguments filed 10/27/06 have been fully considered but they are not persuasive.

Applicant argued that the prior art fails to teach a LTCC (low temperature fired ceramic) as the substrate.

The Examiner agrees in part. While the Examiner acknowledges the fact that the prior art fails to specifically teach a LTCC, the prior art does teach a ceramic substrate and it is the Examiner's position that this would be inclusive of LTCC.

Applicant argued that the prior art teaches heating to melt the solder during wire bonding and the claims now recite firing below the melting temperature of the metals.

The Examiner agrees. While the Examiner acknowledges the fact that the reference teaches heating the solder to bond the wire, it is the Examiner's position that this is commonplace in the art. There is not teaching or suggestion to melt the metals for bonding purposes. The solder is not one of the claimed metals that is recited as being not melted.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 1/12/07

Brian K Talbot
Primary Examiner
Art Unit 1762

BKT